SECTION 07900
JOINT SEALERS

A. GENERAL

SUBMITTALS

Color samples shall be submitted in accordance with Section 1B, Shop Drawings/Submittals. Samples shall be strips of actual caulking. Paper samples will not be acceptable.

GENERAL PERFORMANCE

Joint sealers, except as otherwise indicated, are required to establish and maintain airtight and waterproof continuous seals on a permanent basis, within recognized limitations of wear and aging as indicated for each application. Failures of installed sealers to comply with this requirement will be recognized as failures of materials and workmanship.

JOB CONDITIONS

Sealants shall be installed preferably with temperatures between 40 deg. F and 55 def. F, but in no case shall sealants be installed when temperatures are below 40 deg. F or above 90 deg. F.

Special care shall be exercised to prevent damage to adjacent work during installation of sealants.

Sequencing

1. Install sealant adjacent to painted surfaces before adjacent surfaces receive their final coat of paint.
2. Caulking shall not begin until all samples have been approved.

B. PRODUCTS

SEALANTS

Thermosetting building sealant (caulking) shall be one or two-part polyurethane sealants and shall be one of the following types and manufacturers (or approved equal):

Sonolastic NP-1	Sonneborn
Dynatrol II	Pecora Corporation
Dymeric 240	Tremco Manufacturing Co.

Firestopping sealant for use at all penetrations through fire rated walls and at tops of such walls shall be CP25WB Sealant, MPS-2 and MMP-4S putty and other accessories as manufactured by 3M Corp., or equivalent products manufactured by Rectorseal Corporation, Bio Fireshield, Tremco, Specified Technologies, Johns Manville, or United States Gypsum Co. Provide proper product at each appropriate location.

Acoustical sealant, for use at certain GWB partitions (as shown on Drawings) shall be one-component, pure process Butyl Rubber Base sealant, aluminum gray color, and shall be Acoustical Sealant BA098 manufactured by Pecora Corporation, or approved equal.

Provide the sealant manufacturer's recommended type of joint primer for joint surfaces to be primed. Verify with the sealant manufacturers which materials require priming for each of the sealants used.

Backer rod shall be a closed-cell polyethylene rod, of a diameter 1/8" greater than the joint width up to 3/4" diameter and 1" diameter for 3/4" wide joints, and of the following types and manufacture (or approved equal):

Sonofoam Backer-Rod	Sonneborn
Grace Foam Joint Filler	W. R. Grace & Company

Bond breaker, where required to break the bond between sealant and the back-up material or joint filler, shall be a tape material recommended by the sealant manufacturer, or shall be polyethylene film.

C. EXECUTION

INSPECTION

Installer must examine substrates (joint surfaces) and conditions under which joint sealer work is to be performed, and must notify Contractor in writing of unsatisfactory conditions. Do not proceed with joint sealer work until unsatisfactory conditions have been corrected in a manner acceptable to installer.

PREPARATION

Clean down joint surfaces using oil-free solvent for metal, glass, and other non-porous surfaces, and by wire brushing concrete and masonry surfaces. Surfaces to receive sealant shall be sound, clean and dry, and free of frost, laitance, curing compounds, waterproofing compounds, mastic compounds, corrosion, mill scale, rust, oil, tar, wax, paint, mastic, and similar contaminates.

Prime concrete, masonry, wood and similar porous surfaces. Brush out excess material to insure a uniform film over the joint face. Allow primer to dry out before applying sealant.

Mask adjacent areas as necessary to obtain a neat sealant line.

INSTALLATION

Comply with the manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.

Mix two-part sealants by mixing the activator with the resin uniformly and thoroughly, in the proportions supplied to meet the recommendations of the sealant manufacturer. Sealant shall be mixed in a mechanical mixer, except very small amounts may be hand mixed with a trowel.

Install backer rod with a blunt rod or plain faced roller. Recess into joint to meet the requirements of the sealant manufacturer's recommendations for joint width and depth ratio. Do not puncture, fold, twist, or crease backer rod.

Install bond breaker where sealant would otherwise bond to backer rod or joint filler.

Do not allow sealants or compounds to overflow from confines of joints, to spill onto adjoining work, or to migrate into voids of exposed finishes. Clean adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.

Install sealants in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface slightly below adjoining surfaces.

Where horizontal joints are between the horizontal surface and vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.

Apply thermo-setting sealants by holding the gun nozzle at an angle of about 45 degrees and move steadily along the joint so that a uniform bead is applied without dragging, tearing, or leaving unfilled spaces. Push the bead rather than draw it with the gun leading. Fill joints in vertical surfaces level with adjacent surfaces and tool within ten minutes of application with one continuous stroke to insure intimate contact with the joint surfaces, to remove any trapped air or voids, to consolidate material, and to provide a neat uniform, appearance. Fill joints in horizontal surfaces holding the top surface of the sealant slightly below the adjacent surfaces.

Install self-leveling sealants to a depth equal to 75 percent of joint width but neither more than 5/8-inch deep or less than 3/8-inch deep as recommended by sealant manufacturer. Pour sealant into joints and fill to within 1/16-inch of adjacent surfaces, exercising care not to spill sealant on such surfaces. Refill any areas where sealant seeps out of joint through the expansion joint filler before sealant sets up.

CLEANING AND PROTECTION

Remove masking immediately after application and tooling operations are complete. Clean excess or spilled sealant from non-porous surfaces with solvent before curing. Clean excess or spilled sealant from porous surfaces with abrasive or mechanical means after curing.

Protect sealant where bituminous material is to be applied over thermosetting joint sealant with vinyl or polyethylene sheet material.
Cure sealants in compliance with manufacturer's written instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Advise Contractor of procedures required for cure and protection of joint sealers during construction period, so that they will be without deterioration or damage (other than normal wear and weathering) at time of Substantial Completion. Replace or restore sealants which are damaged or deteriorated during construction period.

SCHEDULE OF APPLICATION

Apply thermosetting building sealant at the following locations:

At vertical jambs of all interior door frames
At all exposed isolation, expansion, and control joints
At miscellaneous locations where caulking is shown on the Drawings

Apply firestopping sealants at the following locations, where required by code, and where indicated on the Drawings:

- Penetrations through fire-resistance-rated walls including both empty openings and openings containing cables, pipes, ducts, conduits, and other penetrating items.
- Penetrations through smoke-resistance walls and construction enclosing compartmentalized areas involving both empty openings and openings containing penetrating items.
- Closing head of wall space at fire-resistant-rated walls and partitions, including both empty openings and openings being penetrated.
- Sealant joints in fire-resistance-rated construction.

Apply acoustical sealant at the tops and bottoms of interior sound walls (as shown on the Drawings), and at penetrations through those partitions. If the partition is also a fire-rated wall, use firestopping sealant at penetrations instead. Completely fill all voids using a gun or putty knife as appropriate to the space to be filled. Excess and smears shall be removed as the work progresses.

SCHEDULE OF SPECIAL SEALANT COLORS

Special sealant colors shall match Tremco colors as follows:

At joints between GWB and painted masonry, concrete or steel	Match wall color
At miscellaneous locations shown on the Drawings	Standard color to most closely match adjacent colors